

## Clark, Wayne

---

**From:** Paul Wright <pwright@slrconsulting.com>  
**Sent:** 30 January 2023 14:56  
**To:** Gosling, Laura  
**Subject:** RE: EFC Concrete application EPR/DP3443QN

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Laura,

Further to our call last week, my client has confirmed the following:

- an initial exotherm of the digester contents while dissolving the raw materials still under atmospheric pressure. This peaks around 91°C. The materials inlets are vented to atmosphere while filling.
- The temperature of the inlet steam quickly rises then drops as the steam valve is first opened, and the boiler supplies its first, hot demand, refills and cools.
- The digester gradually heats to achieve equilibrium with the boiler output.
- The boiler then recovers, and temperatures (and pressures) equilibrate.
- Over time the temperature cycles as the hysteresis of the boiler setpoints react to the heat losses to atmosphere of the digester.
- After approximately eight hours the supply of steam to the digester is shut off and all temperatures begin to drop fairly rapidly.
- The temperature of the vessel bands is always below the maximum temperature of the steam supply.
- Once steam supply is shut off all temperatures drop quickly.
- Therefore there are no significant exotherms present.

Also, it should be noted that the digester has it's own separate pressure relief valve vented to the blowdown tank. This is set to operate below the design pressure (and therefore temperature-saturated steam conditions) of the digester.

If you require any further information, please let me know?

Regards,

Paul

### Paul Wright

He/Him/His

European Industry Business Sector Leader - Environment Management, Permitting & Compliance

 +44 161 872 7564

 +44 7786 808408

 pwright@slrconsulting.com

SLR Consulting Limited

SLR, 86 Princess Street, Manchester, M1 6NG

---

**From:** Paul Wright <pwright@slrconsulting.com>  
**Sent:** 24 January 2023 13:58  
**To:** Gosling, Laura <Laura.Gosling@environment-agency.gov.uk>  
**Subject:** RE: EFC Concrete application EPR/DP3443QN

Hi Laura,

Apologies, I was on leave last week.

We provided information on the intrinsic safety of the process in Section 4.1 of the BATOT document, I have provided additional information below to address your specific queries.

1) Over-pressurisation of the digester

Over-pressurisation of the digester cannot occur. The digester is a rated pressure vessel with a design pressure of 18.35bar, see Appendix 2 document provided. The only source of pressure to the digester is the boiler, there is no exotherm or pressure development from the process inside the digester. The boiler is rated at 15bar maximum, see Appendix 1 document provided, so significantly below the design pressure of the digester and has pressure relief valves fitted, so there is no possibility of a pressure in excess of 15bar being applied to the digester from the boiler.

Additionally, the digester vessel also has a safety relief valve fitted which vents to the blowdown tank. This relief valve is set at 15bar, again significantly below the design pressure of the digester.

2) Overheating of the digester

As mentioned above the process within the digester is not exothermic. The only source of heat to the digester is the boiler.

The normal operating temperature of the boiler is approximately 185°C, which is governed by the maximum operating pressure of the boiler. This temperature is governed by the boiler output, a large increase in pressure is required for a small increase in temperature and hence the physical limits of the boiler and the fail safe measures in place mean that the boiler would shut down before overheating of the digester could occur.

3) Containment

All containment measures on site will comply with CIRIA C736 requirements.

Regards,

Paul



Paul Wright

He/Him/His

Technical Director & Technical Discipline Manager - Environment Management, Permitting & Compliance

+44 161 872 7564

+44 7786 808408

[pwright@slrconsulting.com](mailto:pwright@slrconsulting.com)

SLR Consulting Limited

SLR, 86 Princess Street, Manchester, M1 6NG



The Prince's Responsible Business Network  
Race at Work Charter signatory

Confidentiality Notice and Limitation

This communication, and any attachment(s) contains information which is confidential and may also be legally privileged. It is intended for the exclusive use of the recipient(s) to whom it is addressed. If you are not the intended recipient, any disclosure, copying, distribution or action taken or not taken in reliance on it is prohibited and may be unlawful. If you have received this communication in error, please advise SLR by e-mail and then delete the e-mail from your system. As e-mails and any information sent with them may be intercepted, corrupted and/or delayed, SLR does not accept any liability for any errors or omissions in the message or any attachment howsoever caused after transmission.

Any advice or opinion is provided on the basis that it has been prepared by SLR with reasonable skill, care and diligence, taking account of the manpower, timescales and resources devoted to it by agreement with its Client. It is subject to the terms and conditions of any appointment to which it relates. Parties with whom SLR is not in a contractual relationship in relation to the subject of the message should not use or place reliance on any information, advice, recommendations and opinions in this message and any attachment(s) for any purpose.

**From:** Gosling, Laura <[Laura.Gosling@environment-agency.gov.uk](mailto:Laura.Gosling@environment-agency.gov.uk)>  
**Sent:** 19 January 2023 14:55  
**To:** Paul Wright <[pwright@slrconsulting.com](mailto:pwright@slrconsulting.com)>  
**Subject:** EFC Concrete application EPR/DP3443QN

You don't often get email from [laura.gosling@environment-agency.gov.uk](mailto:laura.gosling@environment-agency.gov.uk). [Learn why this is important](#)

Hi Paul,

I have tried calling you today but I haven't been able to get through.

I have been assessing the bespoke application for EFC Concrete EPR/DP3243QN/A001 and in particular, establishing whether the installation can be considered a low impact installation.

As you are aware, we assess whether an installation can be classified as low impact based on the criteria listed in application form guidance for Part B2, Appendix 2. I am confident that most of the criteria have been met. However, as highlighted in the pre-application discussions and subsequent response (dated 20 June 2022), the decision hinges on whether the process concerning the digester can be considered intrinsically low impact. In particular, we are concerned with the environmental impact of a catastrophic failure of the digester and any potentially explosive situations.

Please can you provide further details on the consequences of a major over-pressurisation or overheating event within the digester. Please could you also describe in more detail the containment measures, in particular, confirm that the building housing the digester is bunded to a volume that can contain the full digester contents.

I would appreciate a response by the 26<sup>th</sup> January 2023.

After today I will not be available until Tuesday 24<sup>th</sup> January but I'd be very happy to have a discussion with you then if you would like to talk this through.

Many thanks,  
Laura

## Laura Gosling

Permitting Officer  
National Permitting Service – Part of Operations – Regulation, Monitoring & Customer

Aqua House, 20 Lionel Street, Birmingham, B3 1AQ.

### Environment Agency

[laura.gosling@environment-agency.gov.uk](mailto:laura.gosling@environment-agency.gov.uk)

Mobile: 07767 311805

Working days: Tuesday to Thursday

Website: [www.gov.uk/environment-agency](http://www.gov.uk/environment-agency)

Information in this message may be confidential and may be legally privileged. If you have received this message by mistake, please notify the sender immediately, delete it and do not copy it to anyone else. We have checked this email and its attachments for viruses. But you should still check any attachment before opening it. We may have to make this message and any reply to it public if asked to under the Freedom of Information Act, Data Protection Act

or for litigation. Email messages and attachments sent to or from any Environment Agency address may also be accessed by someone other than the sender or recipient, for business purposes.